Docket No.: 043876-0145 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Craig HANSEN et al.

Application No.: 10/646,787

Filed: August 25, 2003

Customer Number: 20277

Confirmation Number: 3618

Group Art Unit: 2183

Examiner: Henry TSAI

For: PROGRAMMABLE PROCESSOR WITH GROUP FLOATING-POINT OPERATIONS

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Facsimile: 202.756.8087 Date: January 17, 2006

Dear Sir:

Transmitted herewith is a Supplemental Information Disclosure Statement in the above-identified application.

No additional fee is required.

Applicant is entitled to small entity status under 37 CFR 1.27

Form 1449 (references in hard copy and on CD-ROM) Also attached:

Please charge my Deposit Account No. 500417 in the amount of \$180.00. An additional copy of this transmittal Ø

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extra claims and any patent application processing fees under 37 CFR 1.17.

Respectfully submitted,

DERMOTT WILL & EMERY LLP

Registration No. 26

600 13th Street, N.W. Please recognize our Customer No. 20277 as our Washington, DC 20005-3096 correspondence address.

Phone: 202.756.8000 KLC/jam



PATENT

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In re Application of : Customer Number: 20277

Craig HANSEN, et al. : Confirmation Number: 3618

Application No.: 10/646,787 : Group Art Unit: 2183

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SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Mail Stop IDS Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

In accordance with the provisions of 37 C.F.R. 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached form PTO-1449. It is respectfully requested that the documents be expressly considered during the prosecution of this application, and that the documents be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.

10/646,787

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

Registration No. 26,151

600 13th Street, N.W. Washington, DC 20005-3096 Phone: 202.756.8000 KLC:jam

Facsimile: 202.756.8087 **Date: January 17, 2006**

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Substitute for form 1449A/PTO				Complete if Known		
INIE	ORMATION	DIC	TI OCUDE	Application Number	10/646,787	
				Filing Date	August 25, 2003	
STA	FEMENT BY	APF	PLICANT	First Named Inventor	Craig Hansen	
				Group Art Unit	2181	
(use as many sheets as necessary)				Examiner Name	Henry Tsai	
Sheet	1	of	10	Attorney Docket Number	43876-145	

			U.S. PATENT	DOCUMENTS	
Examiner Initials*	Cite No.1	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA	US-4,852,098	07/25/1989	Brechard, et al.	
	AB	US-4,875,161	10/17/1989	Lahti, et al.	
	AC	US-4,949,294	08/14/1990	Wambergue, et al.	
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-	AS	US-5,600,814	02/04/1997	Gahan, et al.	

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Examiner Initials*	Cite	Foreign Patent Document						
	No.	Country Code ³ Number ⁴ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where RelevantPassages or Relevant Figures Appear			
	AT	WO 93/11500						

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Substitute for form 1449B/PTO				Application Number	10/646,787	
IN	FORMATION I	DISC	CLOSURE	Filing Date	August 25, 2003	
ST	STATEMENT BY APPLICANT			First Named Inventor	Craig Hansen	
				Group Art Unit	2181	
(use as many sheets as necessary)				Examiner Name	Henry Tsai	
Sheet	2	of	10	Attorney Docket Number	43876-145	

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published.	T ²
	AU	IEEE Draft Standard for "Scalable Coherent Interface-Low-Voltage Differential Signal Specifications and Packet Encoding", IEEE Standards Department, P1596.3/D0.15 (Mar. 1992) (50006DOC018530 – 563)	
	AV	IEEE Draft Standard for "High-Bandwidth Memory Interface Based on SCI Signaling Technology (RamLink)," IEEE Standards Department, Draft 1.25 IEEE P1596.4-199X (May 1995) (50006DOC018413 – 529)	
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	BA	i860™ Microprocessor Architecture, Neal Margulis, Foreword by Les Kohn	
	BB	Gove, "The MVP: A Highly-Integrated Video Compression Chip," IEEE Data Compression Conference, pp. 215-24 (March 1994) (51056DOC000891 – 900)	
	BC	Gove, "The Multimedia Video Processor (MVP): A Chip Architecture for Advanced DSP Applications," IEEE DSP Workshop, pp. 27-30 (October 2-5, 1994) (51056DOC015452 – 455)	
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Examiner	Dated	
Signature	Considered	

^{*}EXAMINER: Initial reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. I Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The place a check mark here it English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P. O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORM TO THIS ADDRESS. Send To Commissioner For Patents, P. O. Box 1450, Alexandria, VA 22313-1450. If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2

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INFORMATION DISCLOSURE			CI OSTIDE	Application Number	10/646,787			
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STA	TEMENT BY	APF	PLICANT	First Named Inventor	Craig Hansen			
				Group Art Unit	2181			
(use as many sheets as necessary)				Examiner Name	Henry Tsai			
Sheet	3	of	10	Attorney Docket Number	43876-145			

	U.S. PATENT DOCUMENTS							
Examiner Initials*	Cite No.	Document Number Number-Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear			
	ВО	US-5,636,351	06/03/1997	Lee				
	BP	US-5,721,892	02/24/1998	Peleg, et al.				
	BQ	US-5,734,874	03/31/1998	Van Hook, et al.				
	BR	US-5,758,176	05/26/1998	Agarwal, et al.				
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	BU	US-5,996,057	11/30/1999	Scales III, et al.				
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	BW	US-6,516,406	02/04/2003	Peleg, et al.				
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Examiner	Cite	Foreign Patent Document				T ⁶	
Initials*	No.'	Country Code ³ Number ⁺ Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where RelevantPassages or Relevant Figures Appear		
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		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published.	T ²
	BX	Lee, "Realtime MPEG Video via Software Decompression on a PA-RISC Processor," IEEE, pp. 186-92 (1995) (51056DOC007345 – 351)	
	BY	Martin, "An Integrated Graphics Accelerator for a Low-Cost Multimedia Workstation," Hewlett-Packard Journal, Vol. 46, No. 2, pp. 43-50 (April 1995) (51056DOC072083 – 090)	
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	CA	HP 9000 Series 700 Workstations Technical Reference Manual: Model 712, Hewlett-Packard (January 1994) (51056DOC068048 – 141)	
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	CC	Ang, "StarT Next Generation: Integrating Global Caches and Dataflow Architecture," Proceedings of the ISCA 1992 Dataflow Workshop (1992) (51056DOC071743 - 776)	
	CD	Beckerle, "Overview of the StarT (*T) Multithreaded Computer," IEEE COMPCON '93, pp. 148-56 (February 22-26, 1993) (51056DOC002511 – 519)	
	CE	Diefendorff et al., "The Motorola 88110 Superscalar RISC Microprocessor," IEEE pp. 157-62 (1992) (51056DOC008746 – 751)	
	CF	Gipper, "Designing Systems for Flexibility, Functionality, and Performance with the 88110 Symmetric Superscalar Microprocessor," IEEE (1992) (51056DOC008758 – 763)	
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Examiner	Dated	
Signature	Considered	

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IN	FOR	MATION I	DISC	LOSURE		Filing Date	August 25, 2003		
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Sheet	5		of	10		Attorney Docket Number	43876-145		
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CU Uchiyama et al., "The Gmicro/500 Superscalar Microprocessor with Branch Buffers," IEEE Micro (October 1993) (51056DOC000185 – 194) CV Broughton et al., "The S-1 Project: Top-End Computer Systems for National Security Applications," (October 24,									
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	DL	Convex Data Sh	eet C4/	XA Systems, Con-	vex C	omputer Corporation (51056DOC	C059235 - 236)		
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	DS			1Hz PowerPC Mic) (51056DOC0713		cessor with Enhanced Instruction	Set and Copper Interconnect,"		

Examiner	Dated	
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TRITIE)DN#	ATION	TO	or Octube	Application Number		10/646,787	
			_	CLOSURE	Filing Date August 25, 2003		August 25, 2003	
STAT	EMI	ENT BY A	APP	PLICANT	First Named Inventor		Craig Hansen	
					Group Art Unit 2181			
(use as m	anv she	ets as necessary)					
r					Examiner Name		Henry Tsai	
Sheet		6	of	10	Attorney Docket Numb	er	43876-145	
		ОТНЕГ	R PR	IOR ART NON P	ATENT LITERATURE	E DOC	UMENTS	
Include name of the author (in CAP Examiner Cite item (book, magazine, journal, serial Initials* No. publishe				, magazine, journal, serial,		page(s), v		T ²
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	EG				, pp. 22-28 (April 1989) (51			
	ЕН	(51056DOC072	.095 -	101)	gine in the Intel i860 Proces			
	EI				rporation (May 1991) (5105			$oxed{oxed}$
	EJ				lober 1993) (51056DOC068			
<u> </u>	EK				April 29, 1991 (50781DOC)			<u> </u>
	EL				ed October 17, 1990 (510561			<u> </u>
	EM	L.			ed December 14, 1990 (5078			<u> </u>
	EN	<u> </u>	•		December 21, 1990 (507811			1
	EO				ember 21, 1990 (50781DOC			<u> </u>
	EP	1			2.0, dated September 21, 19			<u> </u>
	EQ	(MU0013276 -	283 a	nd 51057DOC001825 -	processor," IEEE COMPCO 831)		•	
	ER	Moussouris et a 630)	1., "Aı	chitecture of a Broadba	and MediaProcessor," Micro	processo	or Forum (1995) (MU0048611 –	
Examine	г	. <u>-</u>				Dated	1	

Examiner	Dated	
Signature	Considered	

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Substitute for form 1449B/PTO				Application Number	10/646,787	
IN	FORMATI	ON DISC	LOSURE	Filing Date	August 25, 2003	
STATEMENT BY APPLICANT			PLICANT	First Named Inventor	Craig Hansen	
				Group Art Unit	2181	
(use as many sheets as necessary)			cessary)	Examiner Name	Henry Tsai	
Sheet	7	of	10	Attorney Docket Number	43876-145	

		OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published.	T ²
	ES	Arnould et al., "The Design of Nectar: A Network Backplane for Heterogeneous Multicomputers," ACM (1989) (51056DOC020947 – 958)	
	ET	Bell, "Ultracomputers: A Teraflop Before Its Time," Communications of the ACM, (August 1992) pp. 27-47 (51056DOC020903 – 923)	
	EU	Broomell et al., "Classification Categories and Historical Development of Circuit Switching Topologies," Computing Surveys, Vol. 15, No. 2, pp 95-133 (June 1983) (51056DOC003002 – 040)	
	EV	Culler et al., "Analysis of Multithreaded Microprocessors Under Multiprogramming," Report No. UCB/CSD 92/687 (May 1992) (51056DOC069283 – 300)	
	EW	Donovan et al., "Pixel Processing in a Memory Controller," IEEE Computer Graphics and Applications, pp. 51-61 (January 1995) (51056DOC059635 – 645)	
	EX	Fields, "Hunting for Wasted Computing Power: New Software for Computing Networks Puts Idle PC's to Work," Univ. of Wisconsin-Madison, http://www.cs.wisc.edu/condor/doc/WiscIdea.html (1993) (51056DOC068704 – 711)	
	EY	Geist, "Cluster Computing: The Wave of the Future?," Oak Ridge National Laboratory, 84OR21400 (May 30, 1994) (51056DOC020924 – 929)	
	EZ	Ghafoor, "Systolic Architecture for Finite Field Exponentiation," IEEE Proceedings, Vol. 136 (November 1989) (51056DOC071700 - 705)	
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	FH	Lawrie, "Access and Alignment of Data in an Array Processor," IEEE Transactions on Computers, Vol. C-24, No. 12, pp. 99-109 (December 1975) (51056DOC002932 – 942)	
	FI	Le-Ngoc, "A Gate-Array-Based Programmable Reed-Solomon Codec: Structure-Implementation-Applications." IEEE Military Communications (1990) (51056DOC071695 - 699)	
	FJ	Litzkow et al., "Condor – A Hunter of Idle Workstations." IEEE (1988) (51056DOC068712 – 719)	1
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ı	Signature	Considered	
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				Application Number	10/646,787		
INFORMATION DISCLOSURE				Filing Date	August 25, 2003		
STATEMENT BY APPLICANT		First Named Inventor	Craig Hansen				
				Group Art Unit	2181		
(use as many sheets as necessary)				Examiner Name	Henry Tsai		
Sheet	8	of	10	Attorney Docket Number	43876-145		

	1	OTHER PRIOR ART NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published.	T²
	FN	Rohrbacher et al., "Image Processing with the Staran Parallel Computer," IEEE Computer, Vol. 10, No. 8, pp. 54-59 (August 1977) (reprinted version pp. 119-124) (51056DOC002943 – 948)	
	FO	Ryne, "Advanced Computers and Simulation," IEEE, pp. 3229-33 (1993) (51056DOC020883 – 887)	
	FP	Siegel, "Interconnection Networks for SIMD Machines," IEEE Computer, Vol. 12, No. 6 (June 1979) (reprinted version pp. 110 118) (51056DOC002949 – 957)	
	FQ	Singh et al., "A Programmable HIPPI Interface for a Graphics Supercomputer," ACM (1993) (51056DOC020888 – 896)	
	FR	Smith, "Cache Memories," Computing Surveys, Vol. 14, No. 3 (September 1982) (51056DOC071586 - 643)	
	FS	Tenbrink et al., "HIPPI: The First Standard for High-Performance Networking," Los Alamos Science (1994) (51056DOC020943 – 946)	
	FT	Tolmie, "Gigabit LAN Issues: HIPPI, Fibre Channel, or ATM," Los Alamos National Laboratory Report No. LA-UR 94-3994 (1994) (51056DOC046599 – 609)	
	FU	Tolmie, "HIPPI: It's Not Just for Supercomputers Anymore," Data Communications (May 8, 1995) (51056DOC071802 - 809)	
	FV	Toyokura et al., "A Video DSP with a Macroblock-Level-Pipeline and a SIMD Type Vector-Pipelined Architecture for MPEG2 CODEC," ISSCC94, Section 4, Video and Communications Signal Processors, Paper WP 4.5, pp. 74-75 (1994) (51056DOC003659 – 660)	
	FW	Tullsen et al., "Simultaneous Multithreading: Maximizing On-Chip Parallelism," Proceedings of the 22nd Annual International Symposium on Computer Architecture (June 1995) (51056DOC071434 – 443)	
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	GA	Ware et al., "64 Bit Monolithic Floating Point Processors," IEEE Journal of Solid-State Circuits, Vol. Sc-17, No. 5 (October 1982) (51056DOC059646 – 655)	
	GB	"Bit Manipulator," IBM Technical Disclosure Bulletin, pp. 1575-76 (November 1974) (51056DOC010205 - 206)	
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	GE	Jovanovic et al., "Computational Science: Advances Through Collaboration," San Diego Supercomputer Center Science Report (1993) (51056DOC068769 - 779)	
	GF	High Performance Computing and Communications: Toward a National Information Infrastructure, National Science Foundation (NSF) (1994) (51056DOC068791 - 801)	
	GG	National Coordination Office for High Performance Computing and Communications, "High Performance Computing and Communications: Foundation for America's Information Future" (1996) (51056DOC072102 – 243)	
	GH	Wilson, "The History of the Development of Parallel Computing," http://ei.cs.vt.edu/~history/Parallel.html (51056DOC068720 - 757)	

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Sheet	9	of 10)	Attorney Docket Number	43876-145			

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	GI	IEEE Standard 754 (ANSI/IEEE Std. 754-1985) (51056DOC019304 - 323)				
		Original Complaint for Patent Infringement, MicroUnity Systems Engineering, Inc. v. Dell. Inc. f/Wa/ Dell Computer and Intel Corporation; C.A. NO. 2-04CV-120; In the United States District Court of the Eastern District of Texas, Marshall Division filed March 26, 2004				
	GJ	Amended Complaint for Patent Infringement, MicroUnity Systems Engineering, Inc. v. Dell, Inc. f/k/a/ Dell Computer and Intel Corporation; C.A. NO. 2-04CV-120; In the United States District Court of the Eastern District of Texas, Marshall Division filed April 20, 2004				
	GK	Expert Witness Report of Richard A. Killworth, Esq., MicroUnity Systems Engineering, Inc. v. Dell. Inc. f/k/a/ Dell Computer and Intel Corporation; C.A. NO. 2-04CV-120; In the United States District Court of the Eastern District of Texas, Marshall Division filed September 12, 2005				
	GL	Declaration and Expert Witness Report of Ray Mercer Regarding Written Description and Enablement Issues, MicroUnity Systems Engineering, Inc. v. Dell. Inc. f/k/a/ Dell Computer and Intel Corporation; C.A. NO. 2- 04CV-120; In the United States District Court of the Eastern District of Texas, Marshall Division filed September 12, 2005				
	GM	Corrected Expert Report of Dr. Stephen B. Wicker Regarding Invalidity of U.S. Patent Nos. 5,742,840; 5,794,060; 5,764,061; 5,809,321; 6,584,482; 6,643,765; 6,725,356 and Exhibits A-I; MicroUnity Systems Engineering, Inc. v. Dell, Inc. f/k/a/ Dell Computer and Intel Corporation; C.A. NO. 2-04CV-120; In the United States District Court of the Eastern District of Texas, Marshall Division filed October 6, 2005				
	GN	Defendants Intel and Dell's Invalidity Contentions with Exhibits A-G; MicroUnity Systems Engineering, Inc. v. Dell, Inc. f/k/a/ Dell Computer and Intel Corporation; C.A. NO. 2-04CV-120; In the United States District Court of the Eastern District of Texas, Marshall Division filed September 19, 2005				
	GO	Defendants Dell Inc. and Intel Corporation's Identification of Prior Art Pursuant to 35 USC §282, MicroUnity Systems Engineering, Inc. v. Dell, Inc. f/k/a/ Dell Computer and Intel Corporation; C.A. NO. 2-04CV-120; In the United States District Court of the Eastern District of Texas, Marshall Division filed October 7, 2005				
	GP	Request for <i>Inter Partes</i> Reexamination Under 35 USC §§ 311-318 of U.S. Patent No. 6,725,356 filed on June 28, 2005				
	GQ	Deposition of Larry Mennemcier on September 22, 2005 and Exhibit 501; MicroUnity Systems Engineering, Inc. v. Dell, Inc. f/k/a/ Dell Computer and Intel Corporation; C.A. NO. 2-04CV-120; In the United States District Court of the Eastern District of Texas, Marshall Division				
= -	GR	Deposition of Leslie Kohn on September 22, 2005; MicroUnity Systems Engineering. Inc. v. Dell. Inc. f/k/a/ Dell Computer and Intel Corporation; C.A. NO. 2-04CV-120; In the United States District Court of the Eastern District of Texas, Marshall Division				
	GS	Intel Article, "Intel Announces Record Revenue of 9.96 Billion". October 18, 2005				
	GT	The New York Times Article, "Intel Posts 5% Profit Increase on Demand for Notebook Chips", October 19, 2005				
	GU	USA Today Article, "Intel's Revenue Grew 18% In Robust Quarter for Tech", October 19, 2005	L			
	GV	The Wall Street Journal Article, "Intel Says Chip Demand May Slow", October 19, 2005				
	GW	The New York Times Article, "Intel Settlement Revives A Fading Chip Designer", October 20, 2005	†-			

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Signature	Considered	

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INFORMATION DISCLOSURE CITATION IN AN APPLICATION				ATTY. DOCK 043876-01		- 1	SERIAL NO. 10/646,787				
				APPLICANT Craig HANSEN, et al.							
	(PTO-1449)					FILING DATE GRC August 25, 2003 218					
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	В	US	6,725,356	04-20-2004	На	insen et al.					
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